CLAIMS

1 A disc brake rotor arranged to rotate with a hub about an axis and providing two oppositely-facing annular radially-extending friction surfaces which, in the operation of the brake, are engaged by blocks of friction material to decelerate the rotor and hence the hub, the rotor comprising a mounting portion extending axially between an end thereof which is adapted to be mounted on the hub and an opposite end thereof, the rotor also comprising two friction portions each of which provides one of said annular surfaces the friction portions being arranged in spaced parallel relationship with one of said friction portions being supported by said opposite end of the mounting portion and the other friction portion being positioned so that it extends around the mounting portion and is supported by vanes extending between the friction portions, said vanes also defining cooling ducts and entrances to said ducts, the cooling ducts being arranged so that, as the rotor is rotated, air passes through the ducts and acts to cool the friction portions, the mounting portion also defining a plurality of inlets through which air can pass to said ducts, the inlets being distributed circumferentially around said mounting portion, characterised in that each inlet is defined by a bounding surface which includes a section extending between the circumferential extremities of the inlet, said section facing away from the friction portion supported by the mounting portion, said section being continuously curved, symmetrical about an axial centre-line of the inlet, and extending axially less than half its circumferential extent, the inlet extending axially opposite to the entrances of said cooling ducts between the friction portions.

2 A disc brake rotor according to claim 1 characterised in that said section of the bounding surface of the inlet has an arch-like shape.

3 A disc brake rotor according to either one of claims 1 or 2 characterised in that said section of the bounding surface of the inlet has a shape

which is that of half of an ellipse having its major axis aligned circumferentially of the mounting portion.

4 A disc brake rotor according to any one of claims 1 to 3, characterised in that the remainder of the bounding surface of the inlet is symmetrical about said axial centre-line, and is formed by two elliptical sections joined by a section which extends circumferentially.

5 A disc brake rotor according to any one of claims 1 to 3, characterised in that the remainder of the bounding surface of the inlet is symmetrical about said axial centre-line, and is formed by an elliptical section.

6 A disc brake rotor according to any one of claims 1 to 5, characterised in that the transverse cross-sectional area of each duct decreases progressively between an entrance to the duct and an intermediate region thereof and increases between said intermediate region and an exit of the duct, the surfaces of the friction portions which bound the ducts extending as convex curves between entrances of the ducts and exits thereof.

7 A disc brake rotor according to claim 6, characterised in that the variation of said transverse cross-sectional area of the ducts is achieved by variation in the thickness of said friction portions of the rotor.

8 A disc brake rotor according to any one of claims 1 to 7, characterised in that the total extent of said inlets circumferentially is more than half of the circumferential extent of the mounting portion.

9 A disc brake rotor according to any one of claims 1 to 8, characterised in that the number of inlets is a prime number greater than or equal to seven.

10 A disc brake rotor according to any one of claims 1 to 9, characterised in that the number of vanes is a prime number which is different from the

number of inlets and is greater than eleven.

11 A disc brake rotor according to any one of claims 1 to 10 in which the mounting portion is flared in a radially outward direction at said opposite end supporting said one friction portion and characterised in that said section of the boundary surface of each said inlet is radially closer to said duct entrances than the remainder of the boundary surface.